

IN THE CLAIMS

Please substitute the following amended claims 1, 3-5, 7-9, 18-23, 26-27, 29, and 31-39 for their corresponding originally-filed claims. A copy of these claims showing the amendments is attached as Appendix B.

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1. (Amended) A contoured structural member, comprising:
an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
an outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
at least one intermediate layer having a ribbed structure connecting the inner section and the outer section; and
an additional structural component.

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3. (Amended) The structural member of claim 1, wherein the plurality of the layers in the inner section contains both a layer of a composite material and a layer of a metal-containing material.

4. (Amended) The structural member of claim 1, wherein the plurality of the layers in the outer section contains both a layer of a composite material and a layer of a metal-containing material.

5. (Amended) The structural member of claim 1, wherein the metal-containing material is a metal alloy.

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7. (Amended) A complex, contoured structural member, comprising:
an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

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an outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

at least one intermediate layer having a ribbed structure connecting the inner section and the outer section.

8. (Amended) The structural member of claim 7, wherein the plurality of the layers in the inner section contains both a layer of a composite material and a layer of a metal-containing material.

9. (Amended) The structural member of claim 7, wherein the plurality of the layers in the inner section contains both a layer of a composite material and a layer of a metal-containing material..

18. (Amended) A contoured structural member, comprising:

an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

an outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

at least one intermediate layer having a honeycomb structure connecting the inner section and the outer section; and

a structural component.

19. (Amended) A closed, contoured structural member, comprising:

an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

an outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

at least one intermediate layer having a honeycomb structure connecting the inner section and the outer section; and

an additional structural component.

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20. (Amended) A complex, contoured structural member, comprising:
an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
an outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
at least one intermediate layer having a honeycomb structure being substantially contiguous with the inner section and the outer section; and
an additional structural component.

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21. (Amended) A method for making a contoured structural member, comprising:
providing an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure;
providing an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
connecting the inner and outer sections to the at least one intermediate layer; and
attaching a structural component.

22. (Amended) The method of claim 21, including providing the inner section by roll wrapping the inner section over a substrate.

23. (Amended) The method of claim 22, including providing the outer section by roll wrapping the outer section over the at least one intermediate layer.

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26. (Amended) The method of claim 25, further including constraining the outer section when connecting the inner and outer sections to the at least one intermediate layer prior to removing the substrate.

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27. (Amended) The method of claim 26, including constraining the outer section by roll wrapping at least one layer of a shrink-wrap material over the [at least one] outer [layer] section.

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29. (Amended) The method of claim 27, further including providing at least one pressure distributor over the outer section.

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31. (Amended) A method for making a complex, contoured structural member, comprising:

roll wrapping an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a complex substrate;

roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure;

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roll wrapping an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

connecting the inner and outer sections to the at least one intermediate layer;

removing the substrate; and

attaching a structural component.

32. (Amended) The method of claim 31, wherein the shape of a mandrel provides the complex shape of the structural member.

33. (Amended) The method of claim 31, the structural member further comprising at least one initiator.

34. (Amended) A method for making a contoured structural member, comprising:
roll wrapping an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substrate;

roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure; and

roll wrapping an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

constraining the outer section with a shrink-wrap material;

connecting the inner and outer sections to the at least one intermediate layer;

removing the shrink-wrap material and the substrate; and

attaching a structural member.

35. (Amended) A method for making a contoured structural member, comprising:

roll wrapping an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substrate;

roll wrapping at least one intermediate layer having a honeycomb structure to be substantially contiguous with the inner section; and

roll wrapping an outer section to be substantially contiguous with the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

constraining the outer section with a shrink-wrap material;

connecting the inner and outer sections to the at least one intermediate layer;

removing the shrink-wrap material and the substrate;

attaching a structural member.

36. (Amended) A contoured structural member made by the method comprising:

providing an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure;

providing an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

connecting the inner and outer sections to the at least one intermediate layer; and
attaching a structural component.

37. (Amended) A complex, contoured structural member made by the method comprising:

roll wrapping an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a complex substrate;

roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure;

roll wrapping an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

connecting the inner and outer sections to the at least one intermediate layer;

removing the substrate; and

attaching a structural component.

38. (Amended) A contoured structural member made by the method comprising:

roll wrapping an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substrate;

roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure; and

roll wrapping an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;

constraining the outer section with a shrink-wrap material;

connecting the inner and outer sections to the at least one intermediate layer;

removing the shrink-wrap material and the substrate; and

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attaching a structural member.

39. (Amended) A contoured structural member made by the method comprising:
roll wrapping an inner section containing a plurality of contoured layers comprising a composite material or a metal-containing material over a substrate;
roll wrapping at least one intermediate layer over the inner section, the at least one intermediate layer having a ribbed structure; and
roll wrapping an outer section over the at least one intermediate layer, the outer section containing a plurality of contoured layers comprising a composite material or a metal-containing material;
constraining the outer section with a shrink-wrap material;
connecting the inner and outer sections to the at least one intermediate layer;
removing the shrink-wrap material and the substrate; and
attaching a structural member.

REMARKS

Claims 1-39 are pending in this application. Applicant has amended claims 1, 3-5, 7-9, 18-23, 26-27, 29, and 31-39 via the present Amendment to better comply with the Office's requirements.

Specification

The Office has objected to the specification as not containing brief individual descriptions for each drawing figure. In response, Applicant has amended paragraph 14 of the specification to provide a brief description for each Figure.